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APPLICATION OF BUSINESS INTELLIGENCE IN BUSINESS ANALYSIS

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Abstract: Modern business increasingly relies on the application of information technologies. Business intelligence should be a part of the organization's information system, with the role to facilitate and improve the organization's management. Business intelligence is an area of information technology, which aims to achieve high-quality decisions in order to fulfill company's strategic goals. It includes different types of technology and approaches involved in the field of IT, management, statistics, and mathematics.

Business intelligence, together with knowledge management, forms new system concepts of collecting, organizing, storing, and exchanging knowledge in order to achieve the goals in given business system. Business intelligence systems are tools that help managers organize and make decisions from their data. Effective Business Intelligence systems strive for efficient collection, formatting of information and use in an optimal way for communication with different interested parties.

Many software packages and applications have been created in this way. One of them, power BI (Business Intelligence) is a tool developed by Microsoft that enables data visualization and analysis to help users make informed business decisions. It enables creation of personalized Dashboards, interactive reports, visualizations, and geo-maps, whereby data can be combined from almost any application or data source, regardless of whether the data is in the cloud or locally.

Keywords: modern business, business intelligence, business management

1. DEVELOPMENT OF BI

In every business system, various business data are acquired and collected, both about its internal operations and about integration with the environment. It is quite certain that the successful development of the observed company will be safer and easier if the collected data are processed in time and turned into useful information, which can serve as guidelines for the

future period of development. This makes the observed business system more flexible to both internal and external changes. Modern business requires the application of information technologies. Business intelligence is part of the organization's information system, which has a role to facilitate and improve the organization's management. Business intelligence is a field in the field of information technology,

which aims to achieve high-quality decisions to achieve the company's strategic goals. It is a very complex field that includes different types of technology and approaches in the field of information technology, management, statistics, and mathematics.

Knowledge management and business intelligence are new concepts of systematic collection, organization, storage and sharing of knowledge for the purpose of achieving goals in the business system. Knowledge management deals with the processes of creating or recognizing knowledge, its collection and application for the purpose of achieving the ultimate goals of the business system, finding the best ways to maintain, adapt and compete with the business system in conditions of constant change. Business intelligence considers ways of interaction between people and ways of spreading knowledge in the pursuit of developing an efficient organization. It develops the mentality of exchanging and sharing knowledge and opens new channels for the flow of knowledge. Now there is more and more talk about knowledge workers, knowledge managers, knowledge society, digital economy, etc. Knowledge management and business intelligence refer to processes that help business systems to adapt, adapt and efficiently survive changes in the environment.

Business intelligence tools can be integrated into an operational process or monitor the results of a process or series of processes. The main role of business intelligence is to provide information about the achievement of corporate goals, thereby enabling managers to analyze performance gaps and improve their understanding of organizational outcomes. According to performance gaps, managers can take corrective actions. They could update related goals or take specific steps to improve the process to better achieve goals. Business intelligence can be integrated in some situations into a process to automate certain types of decisions, or it can be used in other situations to provide the necessary information to monitor process results. [1]

Business Intelligence (BI) is the use of the collective knowledge of an organization, with the aim of achieving competitive advantages. Business intelligence is one of the business reporting techniques, which enables finding the information needed for easier and more accurate business decision-making. Business intelligence includes processes, technologies and tools that help us transform data into information, information into knowledge and knowledge into plans for managing the organization. The term business intelligence can also refer to the ability to understand and quickly navigate a company in new business conditions. [2]

Business intelligence unites methodologies, technologies, and platforms for data storage (Data Warehousing), network analytical data processing (OLAP Online Analytical Processing) and data mining (Data Mining) that enable business organizations creation of useful management information from business data that is dispersed on different transaction systems and comes from different internal and external sources.

Power BI is emerging as the most competitive tool due to its data integration and decision-making capabilities. It is a Microsoft product that is well integrated with Microsoft applications and platforms and has advanced support for creating analyses. It is popular for its ease of use, rich data visualization capabilities, support for real-time analytics, and accessibility through different subscription levels.

2. THE ROLE OF BI

The role of business intelligence in business analysis is to provide organizations with a systematic and comprehensive understanding of their data, in order to make decisions aimed at achieving operational goals and long-term success.

Business intelligence, together with knowledge management, forms new concepts of the system of collecting, organizing, storing and exchanging knowledge in order to achieve the goals of the business system. Business intelligence systems are presented in various sources as tools that help managers organize and make

decisions from their data. Effective Business Intelligence systems strive for efficient collection, formatting of information and use in an optimal way for communicating with different interested parties. Many software packages and applications have been created in this way.

Business analysis requires detailed insight into various aspects of the organization, and business intelligence provides the ability to integrate data from various sources. Data integration enables a holistic view of the business. Through advanced analytical techniques, business intelligence enables organizations to conduct in-depth data analysis. This includes statistical analyses, causality analyses, and predictive analyses. Business intelligence enables the visualization of complex data. Integrating business analysis with data visualization makes it easier to identify key trends, strengths and weaknesses of an organization. Business intelligence tools allow organizations to create different reports according to the needs of different levels of management. These reports provide an overview of key information and enable business decisions to be made.

In the English language, the word intelligence has two meanings:

1. the ability to learn, understand, think logically, the ability to do these things well;
2. secret information collected about a foreign country, especially a hostile one, by the person who collects that information.

The basis for understanding the concept of BI are three principles:

- ethical and adequate processing become knowledge;
- an information-oriented process on the basis of which future events are planned; and
- an instrument that has a complete role in the decision-making process.

Business data originates from a wide variety of diverse sources, so it follows that business intelligence—being the insights drawn from that data—is not a uniform category. Instead, it consists of distinct subsets, subtypes, or components of intelligence that collectively

form what we refer to as business intelligence. Starting from the fact that the business data that companies routinely collect while performing their business activities is heterogeneous, in the first step we can see that there are two major sources of such data, namely:

- External data sources: data comes from the company's environment, that is, from the markets in which it operates.
- Internal data sources: data is created by the implementation of business processes within the company itself.

Based on the above mentioned, it is possible to distinguish two basic subtypes of business intelligence:

- market intelligence, and
- internal intelligence of the company.

The BI system was originally intended for decision makers, i.e. people who make business decisions. In modern companies, decisions are made by everyone. Not everyone has to decide, but everyone can propose. This is not a return to self-management, but an opportunity for everyone who can contribute to preserving the vitality of the company. Information and knowledge are necessary for everyone to have literary intelligence as information technology that can adequately respond to the challenges of the decision-making process in modern business. Business intelligence systems are also defined as an infrastructure consisting of methods, software tools and applications for efficiently obtaining the necessary information from a large amount of data from various databases. ¹

Modern business is influenced by rapid changes and constant improvement of technology. The most pronounced changes and progress are in the information technology sector. Modern business takes place under the conditions imposed by globalization, internationalization of business, integration of countries on the economic, political and cultural levels, which all require constant monitoring of changes in the business environment and adaptation to the specific conditions of each

market. In order to survive in the market or perhaps take the role of a leader, companies must have the potential for change. A company or organization must keep up with the demands of the market, but also have capable professional management that can understand and predict the future with an idea that can make a breakthrough in the market. Today's managers must accept change as a challenge, not a risk, and must be flexible in their plans and decisions. Proper innovation management is necessary for any business system, especially if it wants to be successful and competitive, and intends to survive in the market in the long term.

Project management best practices are critical to running an efficient and effective multiple listing service. Recognizing that every organization is structured differently, with diverse staff and capabilities, managers will need to establish a benchmark that fits their structure. What is important to remember is that this is a key principle of successful project management, which requires proper planning, communication and execution. Thinking through a project plan in anticipation of a product launch is an imperative basis for setting expectations around product or service delivery. When organizations fail to set the right expectations, even projects that require only months to complete, the burden will begin to feel stretched and strained at best.

3. AI

In today's digital age, artificial intelligence (AI) is reshaping our world in fascinating ways. From personalized social media recommendations to autonomous vehicles and medical diagnoses, AI has become an undisputed force shaping our lives. And while it may seem like the domain of experts, it's never been easier to dive into the world of AI and create a solid foundation for understanding this exciting field.

At the beginning, what it is that one can say about application of artificial intelligence is the possibility of automating administrative tasks in HR. Every task is necessary and equally

important when it comes to talent, but the pandemic has taught us that we have to deal with them more. The next step is the application of artificial intelligence in order to provide the best possible experience to employees during the employee lifecycle.

Artificial Intelligence (AI), Machine Learning (ML), and Deep Learning (DL) have revolutionized the field of advanced robotics in recent years. AI, ML, and DL are transforming the field of advanced robotics, making robots more intelligent, efficient, and adaptable to complex tasks and environments. Some of the applications of AI, ML, and DL in advanced robotics include autonomous navigation, object recognition and manipulation, natural language processing, and predictive maintenance. These technologies are also being used in the development of collaborative robots (cobots) that can work alongside humans and adapt to changing environments and tasks. The AI, ML, and DL can be used in advanced transportation systems in order to provide safety, efficiency, and convenience to the passengers and transportation companies.

Although AI may have downsides compared to humans, there are several non-trivial reasons why firms may want to use AI in their innovation processes. Among the factors exogenous to the innovation process is the fact that innovation managers are increasingly facing highly volatile and changing environments, ever more competitive global markets, rival technologies, and dramatically changing political landscapes. Automation will not only render some jobs redundant, but it will also yield performance benefits in many industries. AI has already attracted billions of dollars in investment. Machine learning received the most investment, although boundaries between technologies are not clear-cut.

Many research findings indicate that the automation will have significant impact on exploitation side of the ambidextrous structure, primarily through cost-cutting caused by the elimination of certain functions in the organisations (i.e. administration, accounting, manufacturing), while on the exploration side,

artificial intelligence in the form of software and based on big data will enable creation of disruptive innovations based on insights that the human mind is unable to comprehend. [3]

4. BI TOOLS IN BUSINESS ANALYSIS

Business intelligence tools can be integrated into an operational process or monitor the results of a process or series of processes. The main role of business intelligence is to provide information about the achievement of corporate goals, thereby enabling managers to analyze performance gaps and improve their understanding of organizational outcomes. According to performance gaps, managers can take corrective actions. They could update related goals or take specific steps to improve the process to better achieve the goal. Business intelligence can be integrated in some situations into a process to automate certain types of decisions, or it can be used in other situations to provide the necessary information to monitor process results.

There are a number of business intelligence (BI) tools used in business analysis, and the choice depends on the specific needs of the organization, the type of data being analyzed, and user preferences. Popular business intelligence tools are the following:

1. Power BI, which was developed by Microsoft, and allows users to connect, analyze and visualize data from different sources. It offers a wide range of visualizations and functionalities for data analysis.
2. Tableau is a powerful data visualization tool that allows users to create interactive and dynamic reports. It provides the ability to connect to different data sources. Tableau leads the data visualization software industry. The company invests heavily in advanced data aggregation capabilities as well as clustering, segmentation and other powerful analytical functions. The user interface also allows users to quickly and easily create custom dashboards to gain insight into a wide range of business information.

3. QlikView/Qlik Sense is a self-service tool within the Qlik platform. It allows users to explore data, create visualizations and share reports. QlikView is an older version, but is still used in some organizations.
4. Looker is a cloud-based data analysis tool that provides the ability to create customizable reports. The basic feature of Looker is centralized data management.
5. SAP BusinessObjects which provides a set of tools for reporting, data analysis and business intelligence. It is used to integrate data from SAP and other sources.
6. IBM Cognos Analytics is part of the IBM product family, enabling users to explore, analyze and act on data. It provides reporting and performance monitoring functionality.
7. Sisense is a business intelligence tool that facilitates the integration of data from different sources. It offers the possibility of creating complex visualizations and reports.
8. Domo is a cloud-based business intelligence platform that enables key performance monitoring, data analysis and reporting.
9. Google Data Studio is a free tool that allows users to visualize data and create reports. Integrates with various Google products and other data sources.
10. Yellowfin BI provides reporting, data analysis and visualization tools. It allows users to track KPIs and analyze trends.

These tools cover various aspects of business analysis, including data visualization, performance analysis, KPI tracking, data integration, and other functionalities. When choosing a tool, it is important to consider the specific requirements and characteristics of the organization in order to choose the most suitable business analysis tool.

5. CONCLUSION

The integration of business analysis and business intelligence represents a key synergy that enables organizations to have a deeper understanding, more efficient management

and faster business decision-making. These two areas complement each other and form a powerful alliance in modern business.

The development of business intelligence analytical tools is very important in today's world of information, which rightfully has the status of the most important business resource. The business intelligence market is expanding, and as a result, the amount of information and data utilized in daily decision-making is increasing, creating a rich opportunity for further research and development in information technologies. BI tools enable decision makers to access relevant and accurate information. This supports the process of informed decision-making, instead of making decisions

based on intuition or incomplete data. BI tools enable the monitoring of trends and behavior in business. Organizations can identify changes in the market, consumer habits, and other key factors that affect their business. BI tools help organizations identify inefficiencies in business processes. By analyzing data, it is possible to optimize operations, reduce costs and improve overall efficiency. The use of business intelligence tools in business analysis provides organizations with the opportunity to make better use of their data, achieve operational excellence, monitor changes in the business environment and achieve competitive advantages in the market.

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PRIMENA POSLOVNE INTELEGENCIJE U POSLOVNOJ ANALIZI

Rezime: Savremeno poslovanje zahteva sve veću primenu informacionih tehnologija. Poslovna inteligencija treba da bude deo informacionog sistema organizacije, sa ulogom da olakša i unapredi upravljanje organizacijom. Poslovna inteligencija je oblast informacionih tehnologija, koja ima za cilj postizanje kvalitetnih odluka za ispunjavanje strateških ciljeva kompanije. Uključuje različite vrste tehnologije i pristupa u oblasti IT, menadžmenta, statistike i matematike.

Poslovna inteligencija, zajedno sa upravljanjem znanjem, stvara nove sistemske koncepte prikupljanja, organizovanja, skladištenja i razmene znanja u cilju postizanja ciljeva u datom poslovnom sistemu. Sistemi poslovne inteligencije su alati koji pomažu menadžerima da se organizuju i donose odluke na osnovu svojih podataka. Efikasni sistemi poslovne inteligencije teže efikasnom prikupljanju, formatiranju i korišćenju informacija na optimalan način za komunikaciju sa različitim zainteresovanim stranama.

Mnogi softverski paketi i aplikacije su kreirani na ovaj način. Jedan od njih, pover BI (Business Intelligence) je alatka koju je razvio Microsoft koji omogućava vizualizaciju i analizu podataka kako bi pomogao korisnicima da donose poslovne odluke na osnovu informacija. Omogućava kreiranje personalizovanih Dashboard-a, interaktivnih izveštaja, vizuelizacija i geo-mapa, pri čemu se podaci mogu kombinovati iz skoro svake aplikacije ili izvora podataka, bez obzira da li su podaci u oblaku ili lokalno.

Ključne reči: savremeno poslovanje, poslovna inteligencija, poslovno upravljanje